

maintain that, whether they be all of one species or not, the Rev. A. M. Norman has done nothing to prove they are or are not *sexually* distinct. It is, however, too small a subject to pursue further. I feel assured, as was stated in the 'History of the British Sessile-eyed Crustacea,' that the *Lestrigoni* are the males of *Hyperia*; but I also think that it is desirable not to sink the name of the male until a new work of reference takes the place of those at present in use, wherein it is known as *Lestrigonus*\*.

The specimen from which I described *Diastylis bimarginatus* was a very poor one, and much broken before it reached me; but certainly it is not *Diastylis spinosa* of Norman, or his name and description are singularly infelicitous.

#### BIBLIOGRAPHICAL NOTICES.

*The Geology of Sussex; or the Geology and Fossils of the Tertiary and Cretaceous Formations of Sussex.* By the late FREDERICK DIXON, Esq., F.G.S. New Edition. Revised and augmented by Professor T. RUPERT JONES, F.R.S., F.G.S. 4to. Pp. xxiv and 469. With a Geological Map, 64 plates, and numerous woodcuts. W. J. Smith: Brighton, 1878.

THE first edition of this splendid work, so well known to geologists, was published in 1850, when Mr. Dixon's posthumous writings were completed and supplemented by his friends Professors Owen, Bell, and Forbes, Messrs. Sowerby, Lonsdale, and others, and edited by Owen himself. The illustrations and descriptions of the Tertiary and Cretaceous fossils then supplied to geologists rendered this a classic English work. Since Mr. Dixon's decease further researches among the highly fossiliferous strata of Bracklesham and the neighbouring districts have enabled Prestwich, Edwards, Fisher, and others to compare and classify this portion of the Eocene formations, with great exactitude, one with another and with similar strata in France and elsewhere. So also with regard to more recent deposits along the Sussex sea-board, R. Godwin-Austen, J. Prestwich, and A. Bell have elucidated, far more clearly than previously, the extent, relations, and age of the "old raised beach," the "boulder-bed," the "mud-deposit," and other now well-known Post-tertiary formations, which had already received much attention from Mantell, Lyell, Dixon, and earlier observers.

\* When I wrote to the 'Annals' I was under the impression that *Lestrigonus* had priority of date to *Hyperia*; but I find that the latter is one year in advance. Hence I wrote as I did, rather than *Hyperia* (*Lestrigonus*) *spinidorsalis*. I thank the Rev. A. M. Norman for giving me the opportunity of correcting it.

With regard to the Chalk itself, the groundwork of the country, more definite and trustworthy views as to its origin, extent, and subdivisions have been added to the shrewd but somewhat vague notions of earlier geologists, by a host of English and continental naturalists, within the last twenty years; and the Chalk fossils, so well depicted in the fine plates of Dixon's and Mantell's works on Sussex, have been more definitely determined, in very many instances, by later palæontologists at home and abroad.

By invoking the aid of his colleagues, collaborateurs, and friends, geological and palæontological, in the reproduction of notes and memoirs, published in various periodicals, elucidative of some of the matters within the range of Dixon's great work, in the revision and correction of determinations of the manifold fossil forms treated of, and, lastly, in the contribution of descriptions of newly observed organic remains, the Editor of the present volume has rearranged and, indeed, reconstructed this now comprehensive "Geology of Sussex." To enumerate those who have so willingly and energetically coöperated with Prof. Rupert Jones in thus restoring, as it were, a noble literary and scientific monument to the late Frederick Dixon, one of the best geologists of Sussex, would be to mention a very large proportion of both the veteran and the rising geologists of the day. Antiquaries, too, of such high standing as C. Roach Smith and John Evans, with others, have given assistance in revising notes on those interesting antiquities of Sussex which Dixon described, *con amore*, in his work; and one of the younger archæologists (Mr. E. H. Willett) has given valuable contributions on like matters.

The 1st, 2nd, 3rd, 6th, and 8th chapters of the book, treating of the Post-tertiary, Tertiary, Cretaceous, and Wealden formations, are new—either written by the Editor, or composed of important papers, reprinted or contributed for the occasion, on the geology of Sussex localities. Chapters 4, 5, and 7 have been revised throughout and much augmented with similar matter.

In Part II. the description of the fossils has been carefully revised throughout. The Plant-remains of Sussex, both Tertiary and Cretaceous, have been described most satisfactorily, in comprehensive memoirs, by Mr. Carruthers. The Ventriculites have been clearly demonstrated by Mr. W. J. Sollas. The Foraminifera have been treated anew by Mr. H. B. Brady and the Editor; and the latter adds a list of those of the English Chalk and Chalk-marl. The Crustacea have been revised and added to by Dr. H. Woodward, with the concurrence of Prof. Bell, F.R.S. Sir P. Grey-Egerton and Mr. E. T. Newton have fully revised the fossil Fishes; and the latter has supplied a perfect list of those of the English Chalk. The descriptions and notes on the numerous and interesting fossil Reptiles, having received Prof. Owen's best attention, are, again, brought up to the requirements of the day.

Some points of special interest to the people of Sussex, and dwelt on more or less particularly in this volume, are:—1, the physical

geography of this county and the neighbouring counties, as being distinctly referable to the geological structure; 2, the investigations into the nature and history of the formations constituting the promontory of Selsey; 3, the origin and range of the old beach and sea-line, now elevated many feet above high tide; 4, the ancient British gold coinage; 5, the hill-forts, especially Cisbury and its prehistoric manufactory of flint instruments; 6, the discovery of a palæolithic flint weapon in the "coomb-rock" near Brighton; 7, the Tertiary beds of Newhaven and of the Brighton neighbourhood; 8, the series of strata recognized in the deep well at the Warren Farm, so boldly conceived by Mr. Willett, perseveringly continued and successfully finished; 9, the structure of the Wealden area, the succession and nature of its strata, the origin and formation of its wonderfully symmetrical river-valleys; 10, the history and results of the undertaking known as the Subwealden Exploration, suggested by Mr. H. Willett for the determination of the deep-seated geological structure of the south-east of England, well told by Mr. Topley and illustrated by admirable sections; 11, the explanation of several well-known features at Eastbourne, Pevensey, Bexhill, and Hastings; and, 12, the valuable record (communicated by Mr. T. Ross) of the changes that have brought about the silting-up of the ancient harbour of Hastings. The Editor's explanation of the origin of flint nodules, as due to the *pseudomorphosis* of chalk by silica, and his insisting on the theory that the Wealden valleys are due to nearly symmetrical fissures and other disturbances of the strata—a theory that found favour with Martin and Hopkins, was contemned by others, and again supported by later observers (Barrois, &c.)—are also new to the work.

A judicious selection from the handsome plates published years ago in Mantell's 'Fossils of the South Downs,' and a careful explanation of the figures, form a portion of this handsome and well illustrated volume. With these figures of the most important typical Cretaceous fossils of Sussex, added to those given in the other twenty-four plates of Chalk fossils originally drawn for Mr. Dixon, the student has a comprehensive repertory of the organic remains of the South-English Chalk and associated beds. Fifteen plates of Tertiary fossils from Bracklesham (Bagshot series) and Bognor (London Clay), numerous woodcuts, some whole pages of sections, a vignette etching of the old Block-house at Brighton, and a beautiful map of the South-east of England, with Sussex geologically coloured, adorn this elegantly printed work. A carefully constructed index and abundant cross-references enable the reader to follow any subject throughout the several chapters, geographical, geological, or palæontological, in which its notice or fuller treatment may occur. The multitudinous species of organic remains enumerated in the book can be readily studied by referring to the numerous lists of specific names and their authorities; and amongst these catalogues, (1) those of the shells from the "Mud-deposit" of Selsey, (2) those of the shells from Bracklesham and from Bognor,

(3) that of the Chalk Foraminifera, and (4) that of the Fishes of the Chalk are especially noticeable.

Having thus indicated the chief features of the new edition of Dixon's 'Geology of Sussex,' we are sure that it will command the attention it so well deserves, and that the people of Sussex will be proud of so good a work, written and published amongst themselves. And though brought out for the honour of Brighton and the county (we are assured in the Preface) without expectation of adequate remuneration, by the liberal and patriotic publisher, we trust that educated men of all stages of society, not only in Sussex, but of England throughout, will support so praiseworthy an undertaking. Nor are we without expectation that, not only British, but Continental, Colonial, and American geologists will fully appreciate and, if possible, possess themselves of so useful and well-illustrated an epitome of the Cretaceous and Tertiary Geology of the South-east of England.

*A Catalogue of Australian Fossils (including Tasmania and the Island of Timor) stratigraphically and zoologically arranged.* By ROBERT ETHERIDGE, Jun., F.G.S. &c. Edited for the Syndics of the University Press. 8vo. Pp. x and 232. Cambridge, 1878.

THE production of this model Catalogue of Fossils is highly creditable to the author and to the Syndics of the Cambridge Press. It is a work of love by a conscientious and enthusiastic geologist, and a very useful and elaborate volume printed liberally by the University at considerable expense.

Australia, with its vast continental area, vies with the longer-known continents in geological interest, and, like other lands, can be fully adapted to the requirements of civilization only by a proper knowledge of its geological structure on the part of its occupiers. How much has been done to acquire and impart this valuable knowledge by the zeal, energy, and self-sacrificing labours of explorers, surveyors, and amateurs in the Australian Colonies is clear to the reader of the Preface, and the student of the Text, Appendix, and Bibliographic List, in Mr. Etheridge's categorical epitome of Australian and Tasmanian palæontology. We have in this well-arranged book a full list of the fossil organic remains hitherto discovered in these regions, arranged zoologically under the several great stratal series. Thus:—1. "Lower Palæozoic, Silurian" (24 pages); 2. "Middle and Upper Palæozoic, Devonian and Carboniferous" (63 pages); 3. "Mesozoic" (24 pages); 4. "Tertiary" (53 pages); 5. "Post-tertiary" (20 pages); 6. "*Incertæ sedis*," those "species to which either no definite geological horizon, locality, or systematic position can be assigned" (2 pages); and 7 (in an appendix of 6 pages). Those species and references published or met with whilst the sheets were in press. A closely-printed list of books and papers consulted by the author fills 22 pages; and a careful index of the genera (6 pages) completes this excellent Catalogue.

Not only does this book, as a list of genera and species, meet the